156130

cc. S. Smith
J. Hanson
A. Faust
B. Foote
D. Bingham

PROPOSAL FOR THE REMEDIATION OF PCB CONTAMINATED MATERIAL AT DEAD CREEK SITE FOR MONSANTO CHEMICAL COMPANY

Submitted
By
U.S. Pollution Control, Inc.

USPCI
A Subsidiary of
Union Pacific Corporation

Remedial Services

February 26. 1992

Mr. J.F. Fritsch
Manager, Contracts and
Contractor Administration
Monsanto Chemical Company
800 North Lindbergh Boulevard
St. Louis, Missouri 63167

Subject: Preliminary Cost Estimate
Dead Creek Project Work

Dear Mr. Fritsch:

U.S. Pollution Control, Inc. (USPCI) is pleased to submit this preliminary cost estimate for the subject work. The cost estimate submitted is accurate within a range of ± 30% based on 1992 dollars.

As you are aware USPCI is a wholly owned subsidiary of the Union Pacific Corporation, with an asset base of 12.6 billion dollars. This fact allows us to confidently state that we are the financially strongest corporation in the industry. Our Standard and Poor rating is the highest possible. This financial strength brings "peace of mind" to our clients.

We have kept in mind the executed Confidentiality Agreement during the discussion and development of this cost estimate and will continue the confidentiality of such through the duration of this project.

If you have any questions or comments, please do not hesitate to contact me at (918)445-2172.

Sincerely,

John E Cook

John E. Cook
Business Development Manager

CER 006704

400 Platte Valley Drive • Riverside, Missouri 64150 • 816/746-2800 • Fax 816/746-2857

WORK PLAN DEVELOPMENT

Prior to mobilization, a site specific health and safety and work plan will be developed by USPCI. The site specific health and safety plan will address, at a minimum, the hazards associated with the project, proper PPE, and notification of various emergency response agencies. All persons entering the site will be required to read and sign the health and safety plan.

USPCI will develop the work plan in accordance with EPA guidelines and protocols. The work plan will address the tasks and objectives of the site operations and the logistics and resources required to reach those tasks and objectives.

MOBILIZATION

USPCI will mobilize manpower and equipment from their remedial office located in Kansas City, Missouri. A project manager and project supervisor, who each have more then five years of experience remediating hazardous waste sites, will be assigned to the project.

All manpower assigned to this project will be trained in accordance with 40 CFR 761 and will have as a minimum forty hours of hazardous waste training, yearly medical monitoring, and updated first aid training.

Equipment will be mobilized as necessary based upon the final bid documents. Dewatering techniques for the material in the pond have not been completely developed, copies of the boring logs will give us a better understanding of the material and the geology of the soils surrounding the ponded area.

The following equipment may be utilized:

- Excavator (2)
- Dozer
- Loader 2 yard bucket size
- Compaction equipment
- Porta Barges (3)
- Diesel generator
- Dump Trucks
- Scales

The following equipment will be mobilized to assist the project management team:

- Office trailer
- Equipment trailer
- Equipment decon trailer
- Personnel decon trailer (if required)
- Sanitary Facilities

If USPCI determines that specialized equipment or specialized crafts are necessary to complete the project, subcontractors may be utilized to give additional support to the USPCI project team. All subcontractors utilized by USPCI are scrutinized to ensure compliance with USPCI's corporate health and safety policies. Subcontractors are also investigated to ensure that they are financially able to complete the contracted work. Site dewatering or material dewatering subcontractors may be utilized on the Dead Creek project.

Utilities will be brought to the site, if required and if accessible.

SITE SECURITY

During working hours, a Visitor Log will be maintained in USPCI's office trailer. All visitors must be cleared before visiting the Dead Creek site. Once a visitor arrives at the site, the visitor will go directly to the USPCI office trailer to read and sign the Visitor Health and Safety Plan and sign the Visitor Log. No unauthorized individuals will be allowed on the site.

To prevent the cross-contamination from the contaminated area to clean areas by workers or equipment, specific operational zones will be delineated, as follows: (1) the Exclusion Zone - the work area containing contaminated soils, (2) the Contamination Reduction Zone - the area where personnel and equipment decontamination activities will occur, and (3) the Support Zone - the clean area.

- Exclusion Zone. The outer boundary of the Exclusion Zone, called the "Hot Line", will be clearly marked. Access will be controlled through the Contamination Reduction Zone.

  The Exclusion Zone will comprise the lateral extent of the work area containing all contamination. All personnel in the Exclusion Zone will wear the proper protective equipment as required by the Health and Safety Plan.

- Contamination Reduction Zone. The Contamination Reduction Zone is the transitional area between the contaminated area and the clean area. The Contamination Reduction Zone is designed to reduce the possibility that the clean area will become contaminated. All decontamination, of both equipment and personnel, will take place in the Contamination Reduction Zone. Sampling equipment and sample coolers will also be decontaminated in the Contamination Reduction Zone.

  The Contamination Reduction Zone will be identified by yellow caution tape wrapped around metal fence posts surrounding the area of the Exclusion Zone.

All persons leaving the Exclusion Zone will pass through the Contamination Reduction Zone. Personnel decontamination activities will take place in a specially equipped personnel decontamination trailer.

Waste solids such as used respirator filters, disposable tyvek suits, and gloves will be collected in receptacles in the designated Contamination Reduction Zone. This solid waste will be bagged, labeled, and disposed of as hazardous materials.

A wash sink in the personnel decontamination unit will be provided to clean respirators and to decontaminate small pieces of equipment and other gear before it is moved to the clean area. Instructions for cleaning and maintaining the respirators will be displayed in the area.

Potentially contaminated wastewater from decontamination will be collected in a holding tank. Water from this holding tank will be transferred to a secondary holding tank for testing.

- Support Zone. The Support Zone is the remainder of the site, and this area is to be kept clean. All activities that need not or cannot take place in the hazardous areas are performed here. This will include safety meetings and off-site communications. This will also be the location of worker rest facilities, including latrine facilities, benches, chairs, liquids, and shade. All administrative activities will take place in this area. The Support Zone will contain a mobile trailer for the purpose of storing and maintaining files, records, safety and personnel equipment, bottled water, sampling equipment, etc.

SITE PREPARATION

The site is currently enclosed by a chain link fence. USPCI will take down the existing chain link fence and install a temporary construction fence to enclose the area as described in Figure 2. A gate will be installed at the entrance to Judith Lane.

A road will be constructed, as needed, along the western bank to allow equipment and trucks access to the work site. Clearing and grubbing will occur to allow access of the personnel and equipment, via the road, to the creek side and to the gravel pit area. Clearing will be completed as necessary. No trash or debris is anticipated to be encountered during clearing operations, vegetation will be chipped and left on-site.

A drying area will be constructed along the fence line between the fence and the temporary access road. The drying area will be lined and will have an under-drain system, allowing the liquids in the soil to gravitate down to the collector piping. The collector piping will drain into a sump. The collected water will be discharged back into Dead Creek north of the work area.

EXCAVATION

Excavation for the site will be accomplished utilizing two different methods.

The gravel pit will be the first area to be remediated. A road will be constructed across Dead Creek to reach the pond area. The opening in the berm between the creek and the gravel area will be closed to segregate the two areas. The excavation of the old gravel pit will be accomplished utilizing (3) porta barges and a large track backhoe. The backhoe will sit on one of the porta barges and excavate underwater, the bottom of the pond. The backhoe will load a second barge and the loaded barge will be pulled to shore utilizing a dozer with a winch attachment. A second backhoe will be located on shore to unload the barges. During the time that the full barge is being unloaded onshore, a third barge will be loaded. Silt barriers will be erected around the loading barge to reduce the spread of contaminated materials. The excavated material will be hauled via lined dump truck to the drying area.

The excavation of the creek will utilize conventional excavating methods. The creek will be excavated starting upstream and working downstream towards Judith Lane. Two hundred feet of the creek will be dewatered and segregated each time. Cofferdams made from clean fill material and covered with polyethylene will be constructed to segregate the work area from the other areas in Dead Creek. Twenty-four inch pipe will be installed in the bank to allow for bypassing the creek around the work area should a storm event occur. Excavation from upstream to downstream in this manner will ensure non contaminated sediment is transported should a large storm event occur and the coffer dams over flow. A sump will be constructed approximately three feet lower then the bottom of the excavation to attempt to lower the water in the creek bottom. Lowering the water will begin to dry the material in the bottom of the creek. Cofferdams will be utilized as backfill material.

When the material has been dewatered and sufficient drying time has passed, the excavator will be utilized to excavated the dried material. The dried material will be loaded on to visqueen lined trucks and hauled over to Monsanto's rail car staging area. A portable ramp will have been erected, which will allow the trucks to backup to the rail car and load the material directly from the dump truck in to the rail car. On site scales will be utilized to ensure that the trucks have legal load limits and to ensure that the rail cars are loaded to optimum capacity. A transloading permit may have to be obtained from the Illinois Environmental Protection Agency.

RAIL CAR LOADING

Each unit will be inspected thoroughly by the Transportation Coordinator at the start of each load, to ensure that it is in proper condition for shipment. Units that are damaged or otherwise not in fit condition shall be removed from service until repaired. In no case will a rail car that is in poor condition be accepted for use in shipment. Once accepted, the cars will be lined with either a UNIFIT liner or a polyethylene liner. An

estimated 90 tons will be loaded into each car.

DISPOSAL

USPCI's Grassy Mountain and Grayback Mountain facilities are located three miles east and seven miles north of I-80 at Exit 41 (Knolls) in the Great Salt Lake Desert, approximately 85 miles west of Salt Lake City, Utah, in Tooele County. Its location is within a hundred-square-mile zone set aside by the Tooele County Commission for hazardous waste activities.

The facilities' rail siding is located 10 miles south of the disposal site. Intermodal and bulk shipments are transported by truck to the facility for treatment and disposal.

The Grassy Mountain facility is permitted to receive ignitable, corrosive, reactive, and toxic wastes. Liquids, sludges, solids, lab packs in approved containers, and liquids in bulk tankers are also acceptable.

The Grayback Mountain Facility is permitted to receive PCBs and PCB-contaminated wastes including PCB liquids (<10,712 ppm), PCB-contaminated debris, and transformer carcasses.

All PCB wastes are received, stored, and handled separately from hazardous or non-PCB wastes.

Overview of Grassy Mountain Facility

a) Disposal: Landfill cells for solid hazardous (RCRA) waste. Landfill cell for solid industrial waste

b) Storage: Tanks
Drums
Surface Impoundment

c) Treatment: Neutralization
Solidification
Sulfide Reduction
Chrome Reduction
Encapsulation
Land Application
Waste Fuel Blending

Overview of Grayback Mountain Facility

a) Disposal: Landfill cells for solid PCB wastes

b) Storage: Tanks
Drums

c) Treatment: PCB Chemical Destruction
Transformer Drain and Flush

BACKFILLING

The creek bed will be the only area backfilled. Clean material will be brought in from off site. Material will be placed in the creek in 12 inch lifts, dozed and graded. A pull-behind roller will be utilized to compact the material.

DEMOBILIZATION

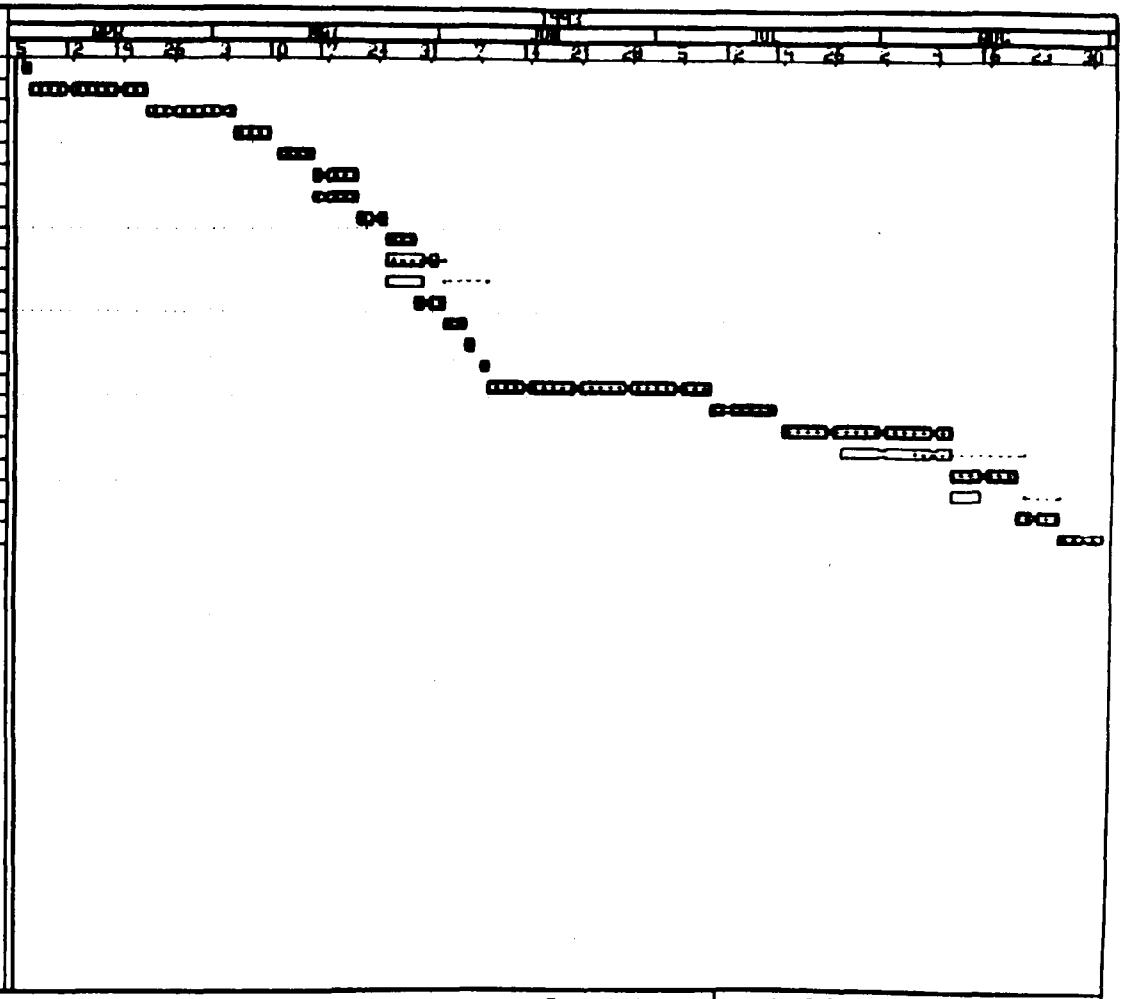
Upon completion of the work any facilities will be removed and the site will be graded and backfilled. The site will also be hydroseeded and fertilized.

PRICING DATA

Work Plan	Lump Sum	$14,900.00
On-Site Work	9,000 tons @ $75.90 per ton	$683,100.00
Transportation and Disposal	9,000 tons @ $192.80 per ton	$1,735,200.00
		$2,433,200.00

CER 006711

ACTIVITY DESCRIPTION	CAL ID	EARLY START	EARLY FINISH
AWARD PROJECT	1	5APR93	5APR93
WRITE FIRST DRAFT OF WORK PLAN	1	6APR93	81APR93
MONSANTO REVIEW OF THE WORK PLAN	1	22APR93	28MAY93
SECOND DRAFT OF THE WORK PLAN	1	4MAY93	8MAY93
APPROVAL OF WORK PLAN	1	10MAY93	14MAY93
MOBILIZE MATERIALS AND EQUIPMENT TO THE SITE	1	15MAY93	20MAY93
MOBILIZE SUBCONTRACTORS	1	15MAY93	20MAY93
CLEAR AND GRUB AREA FOR SITE PREP	1	21MAY93	84MAY93
INSTALL TEMPORARY FENCE	1	20MAY93	25MAY93
BUILD ROAD WAY	1	20MAY93	81MAY93
BUILD DRYING BEDS	1	20MAY93	2MAY93
REMOVE EXISTING FENCE LINE	1	2MAY93	1JUN93
CLEAR AREA BY THE CREEK	1	2JUN93	4JUN93
BUILD CREEK CROSSING	1	8JUN93	8JUN93
BUILD DOCK AREA	1	7JUN93	7JUN93
EXCAVATE MATERIAL FROM THE GRAVEL PIT AREA	1	8JUN93	8JUL93
LOAD OUT MATERIAL EXCAVATED FROM THE POND	1	9JUL93	17JUL93
REMEDIATE CREEK AREA	1	19JUL93	10SEP93
BACKFILL THE CREEK BOTTOM	1	27JUL93	10AUG93
LOAD OUT MATERIAL FROM THE CREEK	1	11AUG93	15SEP93
REVEGITATE CREEK SIDE	1	11AUG93	14AUG93
REMOVE TEMPORARY FACILITIES	1	82AUG93	82AUG93
DEMOBILIZE FROM THE SITE	1	26AUG93	31AUG93



LEGEND
Activity Bar-Early Dates
Critical Activity
Progress Bar
Activity Late Dates

Primavera Systems, Inc 1988-1991

MONSANTO CHEMICAL COMPANY
REMEDIATION OF DEAD CREEK

Sheet 1 of 1

Project Start : 4APR93
Project Finish: 31AUG93

Data Date: 4APR93
Plot Date: 21FEB92

REMEDIATION OF DEAD CREEK Section 8M